

Module 10

CONCEPTS OF LEARNING



THE COMMONWEALTH *of* LEARNING

General Education Modules
for Upper Primary and Junior Secondary School Teachers
of Science, Technology and Mathematics by Distance
in the Southern African Development Community (SADC)

Developed by

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Ministries of Education in:

- Botswana
- Malawi
- Mozambique
- Namibia
- South Africa
- Tanzania
- Zambia
- Zimbabwe

In partnership with The Commonwealth of Learning

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GENERAL EDUCATION MODULES

This module is one of a series prepared under the auspices of the Southern African Development Community (SADC) and The Commonwealth of Learning as part of the Science, Technology and Mathematics Programme (STAMP 2000+). These General Education modules enable teachers to enhance their professional skills through distance and open learning. Many individuals and groups have been involved in writing and producing these modules. We trust that they will benefit not only the teachers who use them, but also, ultimately, their students and the communities and nations in which they live.

The eighteen General Education modules are as follows:

- Module 1: *Multigrade Teaching: Introduction to Multigrade Teaching*
- Module 2: *Multigrade Teaching: Classroom Organisation and Management*
- Module 3: *The Reading Process*
- Module 4: *Developing Reading Skills*
- Module 5: *Special Educational Needs: An Introduction to Teaching Traumatised Children*
- Module 6: *Special Educational Needs: A Practical Guide to Teaching Traumatised Children*
- Module 7: *Education Management Development: Part A*
- Module 8: *Education Management Development: Part B*
- Module 9: *Child Development*
- Module 10: *Concepts of Learning*
- Module 11: *An Introduction to Concepts in Language and Communication*
- Module 12: *Language and Communication: Language in Use*
- Module 13: *Curriculum Theory, Design and Assessment*
- Module 14: *Curriculum Practice*
- Module 15: *A Theoretical Framework on Innovations in Education*
- Module 16: *Effects of Social Changes on Education*
- Module 17: *Comparative Education: Introduction to Key Concepts in Comparative Education*
- Module 18: *Comparative Education: Themes and Trends in Comparative Education in SADC Countries*

A MESSAGE FROM THE COMMONWEALTH OF LEARNING



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CONCEPTS OF LEARNING

It has been observed that most of our newly appointed teachers and the untrained teachers in the Southern African Development Community need assistance in the teaching approaches that take into account individual differences in children. It is for this reason that this module was developed. This module focuses on learning, with an emphasis on the process of learning, learning disabilities, motivation and the assessment of learning. It is our hope that you will use the content of this module to help you with your duties as a teacher.

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LEARNING TIPS

You will find the following tips helpful as you study this module.

- **Set aside some time each day to work on this module.** If possible, study at the same time and in the same place so you are comfortable with your study surroundings. Learning at a distance requires discipline and motivation.
- **Go through the module unit by unit.**
- **Note any words you do not understand.** Look them up in a dictionary or other reference source or discuss them with your colleagues.
- **Underline or highlight important passages.** Make summary notes in the margins of long passages. Writing will help you to remember the material. You may also choose to make diagrams that illustrate how different ideas are related or list the steps in a procedure or technique.
- As you work through this module, **keep in mind your learners and their educational needs** as well as your instructional goals and your subject matter. How will you apply what you are learning?
- Read the assignment instructions carefully. Then, **do all the self-assessment activities** before proceeding to the Suggested Answers section.
- **As you undertake each activity, relate it to the practice of teaching** and analyse how it will help you to enhance the teaching-learning situation. Always ask yourself how you could use this material.
- **Apply some of the suggested techniques to your teaching.** All suggestions may not be appropriate for your situation, but how will you know unless you try them? Keep a record of what techniques work and an explanation of why some techniques appeared to fail. What does not work now may work later with different students.
- It may be difficult, but try to **meet occasionally with other teachers** to discuss the content and application of suggestions provided in this module.
- If you experience difficulty in understanding some aspect of the module, do not despair! You are meant to be challenged. **Do not give up!** Just remember that your goal is to be the best teacher that you can be. Think of what you would tell a student who was experiencing difficulty in your classroom. Then, apply the same advice to yourself.

ICONS

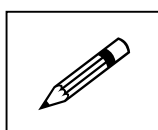
Throughout each module, you will find the following icons or graphic symbols that alert you to a change in activity within the module. Only the icons that are required are used in each module.



Text or Reading Material: provides information about the topics that are covered in a module. The subject matter for each SADC module is organised into units.



Introductory Activity: requires you to focus on the content that will be discussed in a unit.



Self-Assessment: enables you to check your understanding of what you have read and, in some cases, to apply the information presented in the unit to new situations.



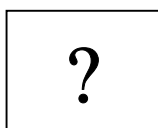
Practice Activity: encourages you to review and apply what you have learned before taking a unit test.



Reflection: asks you to relate what you have learned to your work as a teacher or education officer in your community.



Summary: highlights or provides an overview of the most important points covered in a unit.

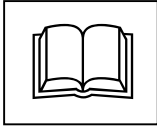


Unit Test: concludes each unit.



Suggested Answers: allow you to evaluate your learning by providing sample answers to assessments, activities and the unit test.

UNIT 1: Theories of Learning



Introduction

Do you really know why teachers are placed in schools? The main reason is to help pupils learn. Teachers are facilitators of learning. Theories have been proposed to help teachers determine what they should do in order to make children's learning more meaningful. There is a wide range of learning theories. This unit will review a few of these theories in order to assist you in meeting the needs of your pupils.

The unit will focus broadly on humanist and cognitivist theories, then review the behaviourist theories. Finally, we will examine the implications of these theories for the classroom teacher. But before we do this, we will look at the definitions of learning.

Objectives

After completing this unit, you should be able to:

1. Discuss humanist, cognitivist and behaviourist theories of learning.
2. Apply each of the learning theories to learning in the classroom.

Definition of Learning Theory

What Is Learning?

The Zimbabwe Integrated Teacher Education Course (ZINTEC) Module 14/1:1 defines **learning** as:

a relatively permanent change in the behaviour of an organism as a result of its interaction with its environment. When we talk of human learning we refer to the process of how a child comes to cope with survival needs as he grows up in his physical and social environment.

Learning, therefore, should result in an individual changing his or her behaviour.

What Is a Theory of Learning?

One theory of learning is defined by Zindi, Peresuh and Mpofu (1995: 55) as "a set of interrelated principles that present a systematic view of learning based on empirical relations among variables".

The purpose of a learning theory is to predict and explain the relationship between learning conditions and outcomes.

Why do teachers need this prediction? We need to have a basis on which to plan our approach to teaching in the classroom.

Humanist Theory of Learning

According to Yelon and Weinstein (1977), the humanist theory of learning views learning as a function of the whole body. Humanist learning involves the mind and the emotions of the human being.

The learner should be motivated from within him- or herself. This is what is technically referred to as **intrinsic motivation**.

Humanists believe all human beings have an inherent or built-in desire to learn. Is this not true about yourself? External threats can reduce learning levels. According to Yelon and Weinstein (1977), a child who is ridiculed by being asked to read aloud due to poor performance is threatened.

Combs et al. (1974) in Dembo (1981) note that perception is another human variable that plays a major role in learning. If a child perceives art as a more pleasurable activity than mathematics, then the child would not be motivated to participate in mathematics. However, if the pupil is helped to derive personal meaning from the subject, the child may become motivated to learn mathematics.

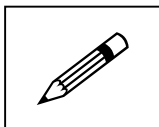
Remember that we started by saying that human beings have an inherent desire to learn. Another theorist who focuses on a built-in desire to satisfy needs is Abraham Maslow. Maslow's theory focuses on motivation. A human being will strive to achieve anything if it is in line with the individual's needs. As one need is satisfied, then the next need comes to the surface, and the individual starts to strive towards satisfying that need.

We cannot conclude this section before looking at what Carl Rogers in Dembo (1981: 356) says about human beings in relation to learning:

- Human beings have a potential for learning.
- Significant learning takes place when the subject matter is perceived by the student as having relevance for his or her own purposes.
- Learning which involves a change in self-organisation – in the perception of oneself – is threatening and tends to be resisted.

- Learning which is threatening to the self is more easily perceived and assimilated when external threats are minimal.
- When threats to the self are low, experience can be perceived in differentiated fashion and learning can proceed.
- Significant learning is acquired through doing.
- Learning is facilitated when the student participates responsibly in the learning process.
- Self-initiated learning that involves feelings as well as the intellect is most lasting and pervasive.
- Independence, creativity and self-reliance are all facilitated when self-criticism and self-evaluation are basic and evaluation by others is of secondary importance.
- The most socially useful learning in the modern world is learning *how* to learn, a continuing openness to experience and the willingness to change in response to what has been learned.

This humanistic view of learning as presented by Carl Rogers, Combs et al. and Abraham Maslow in this unit is just one view of the process of learning. We will later look at yet another view – the cognitivist view.



Self-Assessment 1

1. Who are the humanist theorists presented in this unit?
2. What do they believe about learning?

Possible answers to this question are provided at the end of this unit.



Cognitivist Theory

In this theory, Jean Piaget, who is frequently considered to be a developmental psychologist, addresses how children think and how that thinking changes with the age of the child. The behaviour change is viewed from a cognitive developmental point of view (Combs et al., 1981). Learning occurs when there is a change of cognitive structures within the brain.

As argued by Combs et al. (1981: 308), Piaget's theories have both instructional and learning implications. Because these implications were discussed in Module 9, Unit 3, we only need

to say that both developmental concepts and learning processes can be discussed in relation to Piaget's theory.

Let us briefly look at the memory and transfer aspects of the learning process.

According to Robert M. Gagné, the human mind is like a computer in the way it processes information (Yelon and Weinstein, 1977: 150):

- The mind is stimulated to want to learn.
- Attention is the prerequisite to wanting to learn.
- Information received is coded.
- The coded information is stored.
- Information is remembered on demand.
- Remembered information is applied in other relevant situations (transfer).
- The learner reacts in a manner that suggests learning has occurred.
- The learner feels the goal has been satisfied.

Behaviourist Theory

Theorists in this group are also referred to in some books as associationists. Behavioural psychology originated at Harvard University. B. F. Skinner is considered to be the leading behaviourist. Basic to **behaviourism** are two key premises:

- Learning results in a change of behaviour.
- Both learning and behaviour are modified by environmental conditions.

Through an experiment that was designed to study the behaviour of animals, Skinner was able to conclude that reinforcement is an important variable in the desire to continue to learn. A rat enclosed in a box was rewarded with a food pellet each time it pressed the correct bar. Initially, the bar pressing was by accident, but later, the bar was pressed more regularly.

Another behaviourist, Pavlov, came up with an interesting theory while working with dogs. Dogs were given food after a bell was rung. Later, the bell was rung, and no food was brought. However, the dogs started to salivate. They had been conditioned to know that the food and the bell were related. This is called **operant conditioning**, resulting in an **operant behaviour**, that of salivating.

Do our children not stand when we walk into a classroom without us telling them to do so?

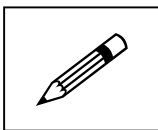
Don't children who receive praise usually strive to produce good work?

The need to want to learn is reinforced by rewards such as food, as in Skinner's and Pavlov's experiments. We should use positive reinforcers (such as praise or rewards) instead of negative reinforcers (such as shouting or criticising) because then we will be better able to motivate our pupils. Children respond better to positive reinforcement.

According to the behaviourists, reinforcement should be immediate. Otherwise, it loses meaning to the learner. The bond between the stimulus and the response must be strengthened.

We must distinguish between classical conditioning and operant conditioning. **Classical conditioning** is due to a neutral stimulus, such as the food to a dog in Pavlov's experiment. Operant conditioning, on the other hand, comes about as one gradually associates a stimulus with an outcome.

If you are a strong supporter of the behaviourist view of learning, you will create an environment in which students are rewarded for behaving in a manner that meets your objectives. Therefore, you will focus on environmental stimuli and the rewards of feedback that you provide.



Self-Assessment 2

What aspects of the experiments conducted by both Pavlov and Skinner show that immediate feedback reinforces response and behaviour change?

Possible answers to this activity are provided at the end of this unit.



What Are the Implications of Learning Theories for the Classroom Teacher?

Humanist Theories

Dembo (1981) suggests that teachers should do the following:

- Set the initial mood or climate through trust.
- Clarify the individual and group purposes. In other words, discuss why children are at school and in a particular class.
- Collect and organise as many resources for learning as is possible.
- Be flexible in your teaching role.
- Accept emotional and intellectual responses so as to benefit each individual pupil.

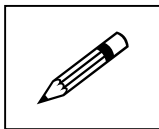
- When the learning tone has been established, participate in learning along with the pupils.
- Make yourself available to all your pupils.
- Be alert to the feelings of your pupils so that you can empathise or put yourself in your pupils' place and, therefore, apply those feelings constructively.
- Accept and recognise your own limitations – none of us knows it all.

Yelon and Weinstein (1977: 133) state that “students should have more freedom and responsibility for what they learn...human learning is growing and changing so fast that students need more than yesterday's knowledge”. This means that you should be prepared to keep at least three years above the academic level of your learners.

Behavioural Theories

Yelon and Weinstein (1977: 120) suggest the following points:

- Identify what is to be learned and state it in precise terms.
- Identify what pupils will do in the lesson in order to achieve the set objectives.
- Identify appropriate reinforcers.
- Ignore negative behaviours that do not contribute to learning. This is called the **extinction approach** because you want to stop a behaviour from occurring.



Self-Assessment 3

Emotions are part of human existence. Teachers are expected to be alert in order to observe children's reactions that may disrupt learning. Identify some emotions that may be displayed by pupils, and explain how you would redirect these emotions so as to provide a positive learning experience.

Possible answers to this activity are given at the end of this unit.



Summary

This unit noted that the purpose of learning theories is to help us predict and explain the relationship between learning conditions and outcomes. Three major learning theories were presented. Humanist theory states that learning is a mind and body experience and that human beings have an inherent desire to learn. Cognitive theory focuses on the work of the brain during the learning process. Behaviourist theory focuses on the effect of the environment on learning. The unit concluded by suggesting what teachers should do in light of these theories.



Reflection

Now that you have completed this unit, what aspects of it do you think will help you to perform better in the classroom?



Unit Test

1. What are the key features of the humanist theory of learning?
2. If you were a behaviourist, how would you set up your learning environment?

Possible answers to these questions are provided at the end of this unit.



Suggested Answers

Self-Assessment 1

1. Humanist psychologists presented in this unit are Rogers, Combs and Maslow.
2. The humanists believe that learning is a function of the whole person; both physical and emotional aspects of the body are involved. They also believe that all humans have a built-in desire to learn and that this desire may be influenced by external stimuli.

Self-Assessment 2

Immediate food delivery reinforced the rats' continued efforts to press the bar or, in the case of the dogs, salivation. Repeated pressing of the bar and salivation were behaviour changes that became more or less permanent whether or not food was immediately released.

Self-Assessment 3

There are a variety of possible responses to this question. However, a possible response is presented below.

Some pupils could be:

- withdrawn,
- depressed,
- over-excited,
- annoyed, or
- unsettled.

With depressed, withdrawn or annoyed children, you would need to talk to them to identify the problem that they may have. You would then reassure them. The over-excited and unsettled child may be happy and may need recognition. Discuss what is of interest to him or her; then set more challenging work.

Unit Test

1. The key features of the humanist theory include the ideas that learning involves:
 - the whole person,
 - the mind and emotions,
 - motivation that is intrinsic or comes from within, and
 - a desire to learn.

2. If you were a behaviourist, you would:

- identify what is to be learned and state it in precise terms,
- identify what students will be able to do,
- identify appropriate rewards and feedback, and
- ignore any behaviour that you do not want to occur.

UNIT 2: Approaches to Learning



Introduction

This unit introduces you to different approaches to learning and how they can be applied to classroom situations. In Unit 1 of this module, we learned that learning is the process by which we acquire and retain attitudes, knowledge, understanding, skills and capabilities. How, then, do we go about trying to achieve this? As a teacher, you will note that traditional approaches to teaching are beginning to give way to more flexible approaches. You should not be left behind. You should be in a position to deliver the best there is to your pupils, and this unit will assist you in doing this.

Objectives

After completing this unit, you should be able to:

1. Explain the rationale for adopting new approaches to learning.
2. Discuss the child-centred, teacher-centred and resource-based approaches to learning.
3. Apply the three approaches identified above to learning in classroom situations.



Introductory Activity 1

Why do you need to keep abreast of new trends in teaching and learning?

Possible answers to this question are provided at the end of this unit.



Why Adopt Other Approaches?

You may be saying to yourself:

I have been in the teaching service for years. I am comfortable with the way things are. I do not need to change my methods. Changes will do more harm than good.

If the above statement sounds familiar to you, then you are in trouble. The education system is changing in line with a changing society. Your teaching approaches also have to change in line with all the other changes that are taking place in society. For more information on education and the changing society, you should consider reading Modules 15 and 16 in this series.

Are you aware that some of the methods you use may actually cause learning blockages for your pupils? These blockages may be very difficult to overcome. They may affect the child for the rest of his or her life.

Over the last few years, new knowledge has been uncovered that helps us to better understand the learning process. Also, some of us have access to educational technology resources, such as computers, which can help us to help our pupils. The world is changing; therefore, we teachers must change.

What Problems Might You Encounter?

If you were to implement new teaching and learning methods, what problems or barriers might you face?

As you read about some of the challenges below, think of how you might overcome them.

- Your school has limited resources. This may force you to adopt approaches that may be out-dated and less efficient.
- Your school principal or master may have the post of headship due to seniority rather than qualification. You might meet resistance in your effort to introduce changes.
- The head of the school may see you as a threat to his or her position.
- You might notice an unequal provision of resources between urban and rural schools. Pupils in the urban schools may have advantages that the pupils in rural schools may not have.

This unit outlines some of the current approaches to learning. There are other approaches that you could cover. Do your own research and add new ones to your list.

Child-Centred Learning

You may be wondering what the term ‘child-centred learning’ means.

- Is this some kind of child power movement aimed at giving children control of the school?
- Are we as teachers going to lose our authority in the classroom?
- Are we going to spoil these pupils?

You may be relieved to know that child-centred learning is none of these things. Farrant (1981: 128) describes **child-centred learning** as “simply a realistic response to what we know about children, their development, interests and characteristics”.

As you might have noticed, this definition is closely related to our discussion of child development in Module 9. When you teach pupils, you must take into consideration various aspects of their personality development, cognitive development, moral development, emotional development, social development and language development.

In other words, we are saying, consider the child as a complete entity. Do not focus on cognitive development and neglect other important aspects of the child's personality.

Aspects of Child-Centred Learning

In order to help you understand the various aspects of child-centred learning, we are going to refer to the ideas put forward by Dembo (1991) and Farrant (1988).

Child-centred learning:

- focuses on the children's needs, which should determine what they learn;
- takes into consideration the changing characteristics that distinguish children of different ages;
- demands that teachers use materials that are appropriate to the children's level of understanding; and
- requires the teacher to know and make use of the motivational forces that may control children's learning.

Application of the Child-Centred Learning Approach

How can you ensure that your teaching approach is child-centred? You may wish to consider the following:

- Have a lot of activities in the classroom that your pupils may do during class or during their free time.
- Make sure that the learning process is enjoyable for every pupil.
- Allow your pupils to work in groups if they want to.
- Your classroom atmosphere should be friendly and relaxed. Do not be too restrictive.
- Allow your children to express their ideas in various ways, for example, writing, painting and acting.
- Always remember that you are trying to address the various aspects of the child's development.
- When some children finish an assignment before others, make sure that they have something else to do. Your children must not sit or wait until you can attend to them.
- Ensure that you have a variety of activities and learning material on display to stimulate your pupils' natural curiosity.

- Allow them to experiment and discover things on their own. This will broaden their ways of thinking.
- Let children pursue what interests them.

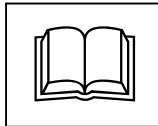
You may start panicking and think that in this approach, pupils are being allowed to do as they please. This is not the case. In child-centred learning, you are aware of and respect each pupil's individuality, and you try to enable each pupil to realise his or her potential.



Self-Assessment 1

1. What is child-centred learning?
2. How can you apply the child-centred learning approach to your classroom?

Possible answers to these questions are provided at the end of this unit.



Teacher-Centred Learning

Teacher-centred learning is another approach that you could implement.

The assumption in this type of approach is that the “teacher knows best”. Farrant (1988) tells us that in **teacher-centred learning**, attention is on what is taught and working through a syllabus. Emphasis is on teaching rather than learning.

Does this sound familiar to you? When you were a student, did your teacher appear to follow some pre-existing guidelines? Did he or she modify the guidelines to meet your needs?



Introductory Activity 2

From the definition given above, what kind of problems could the teacher-centred approach cause?

Possible answers are provided at the end of this unit.



Characteristics of Teacher-Centred Education

Let us look at some of the characteristics of teacher-centred learning as proposed by Wilson, Robeck and Michael (1969).

- The teacher is the ultimate director in the child's learning processes.
- The teacher determines material to be learned and the pace of the instruction.
- The role of the teacher is that of giving information to the pupils.
- Teachers spend most of the time teaching.

- There is no room for individual differences.
- Pupils can learn only when the teacher is present.

Disadvantages of the Teacher-Centred Approach

You may have come to realise that if there are any advantages to the teacher-centred approach, they are very few. It is very unfortunate that most of our schools use this approach. Some of us might have experienced this approach when we went to school.

The teacher-centred approach does not address the pupils' learning needs. Pupils are treated as blank slates that bring nothing to the learning situation. This, however, is not true. As a teacher, you may have noticed that pupils actually bring a lot of experiences to the learning situation. The teacher should make use of these experiences to maximise learning.

The teacher-centred approach does not usually allow for extensive group work or individualised activities to occur. Class participation may be minimal, and students may not have frequent opportunities to express their points of view and to take on responsibility. The teacher controls every aspect of the learning.

Resource-Based Learning

This is yet another form of learning approach. It is not very popular in this part of the world. However, review it and determine if you can employ some of its principles.

For Farrant (1988: 130), **resource-based learning** is “a system that structures resources into a learning frame-work enabling children to learn independently”.

In this approach, you, as the teacher, have to create the learning environment and get your children to learn. You can do this by stimulating and guiding your pupils through the learning resources. You will need to know that there are two extreme approaches in resource-based learning. In one approach, you programme the children's learning by giving them a series of assignments. You direct the pupils to the resources they need to complete the assignment.

In the other approach, you set the pupils free to pursue their own learning guided by their interests. Learning is unstructured. Pupils learn what they want to learn.

You do not have to employ one extreme or the other. You could use features of both approaches. When covering some subjects, like mathematics, you could present your pupils with a series of assignments; for other subjects, such as art and athletics, you could give them the freedom to choose.

Implications for Teachers

You may be wondering whether you can use the resource-based approach. Are you thinking that this approach would take away from your major responsibility of teaching, leaving you with little to do in the classroom?

This should not be the case. You can make use of resource-based learning and, at the same time, retain your responsibility for teaching.

How, then, can you apply resource-based learning? Here are a few suggestions.

- You need to establish a resource centre before you can introduce resource-based learning in a school.
- Make sure that you have all the necessary books and information in the resource centre.
- Introduce your pupils to materials available to them and explain how to access the information.
- Be sensitive to your pupils' needs and interests.
- Assist your pupils in discovering what they want to learn.
- While most pupils are engaged in resource-based learning, use your free time to give more assistance to those pupils who have learning problems.
- Develop a good record-keeping system so that you can record the activities each student is involved in and the competencies that he or she displays at any given time.



Self-Assessment 2

In what ways does resource-based learning change the traditional role of the classroom teacher?

Possible answers to this question are provided at the end of the unit.



Summary

In this unit, we discussed three common approaches to learning: the child-centred, teacher-centred and resource-based learning approaches. We also noted how these approaches could be applied to classroom settings.

We hope that this unit has been an 'eye opener' to you and will encourage you to change, improve or consolidate some of your teaching methods.



Reflection

Think of how you can become a more effective teacher. Note three specific things you will do to improve your teaching.



Unit Test

1. Explain why it is important for teachers to consider different approaches to learning.
2. How does the student-centred learning approach differ from the teacher-centred approach?



Suggested Answers

Introductory Activity 1

You need to keep abreast of new trends in teaching and learning because new knowledge is being uncovered all of the time and because society is changing. Our teaching methods should change to match changing society.

For more information on education in a changing society, you may want to refer to Modules 15 and 16 in this series.

Self-Assessment 1

1. Your definition of child-centred learning should include the statement that it takes into account all aspects of child development.
2. There are a number of ways that you can implement child-centred learning. A few suggestions are provided below.
 - Make the learning process enjoyable.
 - Provide activities the children may be involved in.
 - Have a friendly, relaxed atmosphere in the classroom.
 - Allow children to pursue their own interests.
 - Engage students all the time in some learning activity.
 - Do not be too restrictive.
 - Give room for freedom of expression.

Introductory Activity 2

Problems that may result from the teacher-centred learning approach may include the items listed below. However, you may have many other suggestions. Remember how you were taught when you went to school.

- The teacher-centred approach may not address the pupils' learning needs.
- Pupils are treated as blank slates without consideration of their experience.
- Individual differences are not considered.

Self-Assessment 2

In a resource-based learning situation, the traditional role of a teacher is altered in a variety of ways:

- The traditional role of the teacher is that of a provider of information, whereas in resource-based learning, the teacher becomes a facilitator of learning.

- The teacher must create a learning environment rather than a teacher-centred environment.
- The learning environment is based on the students' interests rather than on the teacher's interests.
- The teacher must establish an extensive resource centre with materials available to all students. In the traditional role, the teacher usually keeps the material and doesn't distribute it widely.

Unit Test

1. Teachers need to consider other approaches because:
 - the needs of the students and society change,
 - new teaching and learning methods are being developed that could improve learning,
 - one approach may not meet the needs of all students, and
 - new educational resources open the doors to new information and approaches.
2. Differences between the student-centred approach and the teacher-centred approach:
 - The student-centred approach focuses on the learner; the teacher-centred approach focuses on the teacher.
 - The student-centred approach gives the control to the learner; in the teacher-centred approach, the teacher has control.
 - The student-centred approach is more likely to take into consideration the needs and characteristics of pupils and therefore make use of materials and activities that are appropriate for the children's level of understanding; the teacher-centred approach does not take individual differences into consideration.
 - The student-centred approach allows pupils to pursue activities that interest them; in the teacher-centred approach, the teacher determines the activities.
 - The student-centred approach usually involves a lot of small-group work; the teacher-centred approach may have a lot of whole-class activity.

You may have additional responses that you can add to the above list. You may also find it helpful to discuss the different approaches with teachers who use them.

UNIT 3: The Process of Learning



Introduction

This unit introduces you to the process of learning, according to R. M. Gagné. In Unit 2, we looked at the approaches to learning. Now we want to look at how your pupils learn and what actually takes place in the learning process.

We are also going to focus on how you, the teacher, influence the process of learning. We will discuss Gagné's theory of learning and its application to teaching.

Objectives

After completing this unit, you should be able to:

1. Outline and comment on Gagné's theory of stages of learning.
2. Analyse the stages of learning.
3. Apply the theory to teaching.

Gagné's Process of Learning

To help us understand what takes place in the process of learning, let us refer to the work of Robert M. Gagné, a famous theorist from Florida State University. He proposed that the human mind processes information like a computer. He identified eight stages in the process that converts information to learned knowledge.

Let us now go through Gagné's phases of learning as illustrated by Yelon and Weinstein (1977). Some stages are discussed together because the processes involved overlap.

Stage I – Motivation

You cannot doubt the importance of motivation in any learning exercise. It is a necessary pre-condition for learning to take place. Motivation is so important to learning that in this module, you will notice that Unit 6 has been wholly devoted to it.

Stage II – Attention: Securing the Attention of Students

Your students are not going to learn if they cannot listen and pay attention. How can you secure the attention of your pupils? You may wish to consider the following strategies:

- Make the learning process interesting.
- Make use of familiar objects and situations.

- Involve pupils in the learning process.
- Use colourful and concrete objects in your illustrations.

Stages III and IV – Acquisition and Retention

You know that nothing can be learned if it cannot be remembered. Memory is a very important aspect of the learning process.

As a teacher, you need to use teaching methods that will assist your students in remembering what you have taught them. How can you achieve this? You may want to look at these principles.

Pattern learning. You should arrange your learning material in an orderly way that makes it easy to understand. Material that is easily understood is easily remembered.

Coding. This merely means that you should present your learning material in various forms so that it appeals to different senses. You will note that some of your pupils may find it easier to recall pictures than written passages, or vice versa.

Stage V – Recall and Retrieval

At this stage, information is remembered and used. Retrieval is the process of finding stored information and bringing it into the learner's consciousness.

You should make your learning material meaningful to the child. Refer to the child's experiences. Make your learning material easy to understand. This will make retrieval of the information easy for the child.

Stage VI – Generalisation

At this stage, the information has been retrieved and is applied to new situations. Transfer of learning has taken place. This is very important to you as a teacher. This is what distinguishes good teachers from those who could improve their methods. The transfer of learning should be one of your most important goals. It can be successfully argued that teaching is successful to the extent that pupils are able to apply what they have learned to new situations in and out of school.

Stage VII – Performance

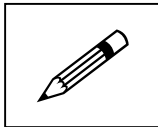
At this stage, the learner acts in some manner that confirms that learning has taken place. Activity by the learner is important to learning. These activities and responses are an important indication that learning has taken place.

As a teacher, you can influence the ways in which students respond. You can get responses from pupils by asking questions either orally or in writing.

Stage VIII – Feedback and Reinforcement

At this stage, the learner has reached the goal. The expectations of the motivation phase will have been met.

Feedback is your response to your pupils' performance. Give your students information on how they have performed. The feedback that you give serves two purposes. It can be informational or it can be motivational. Informational feedback tells the pupil what has been done and what needs to be done. Motivational feedback urges the student to go on. The feedback you give must not be delayed. It must be possible for your students to link feedback with performance.



Self-Assessment 1

List the stages in Gagné's learning processes.

Possible answers to this activity are provided at the end of this unit.



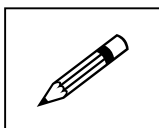
By now, you should be aware that Gagné (1977), cited in Dembo (1981), contributed a lot to the subject of learning processes. His ideas should be relevant to your work as a teacher. Gagné also proposed a system that arranges learning in a hierarchy of relationships based on the assumption that the higher levels of learning depend on the lower ones. For example, students need to be able to recognise the letters *p*, *e* and *n* before they can write the word *pen*.

You should also know that Gagné emphasised the importance of developing a task analysis before beginning instruction.

Task analysis is a method whereby you identify the skills and knowledge necessary to learn a topic and you make sure students have these skills and knowledge before you teach them that topic.

To help you understand the concept of task analysis better, let us go through the stages involved in task analysis as illustrated by Dembo (1981).

- State the learning task or objective in behavioural terms.
- Break down the task into sub-tasks.
- Determine the relationship between the prerequisite skills and the logical order in which they should be learned.
- Design materials and procedures for teaching each of the sub-tasks.
- Provide feedback to the students about their performance.



Self-Assessment 2

How can you use task analysis in your teaching?

Possible answers to this question are provided at the end of this unit.



Implications of Gagné's Theory for Teaching

Gagné's theory on the process of learning should be very relevant and useful to you as a teacher. Regardless of whether you are trying to teach learning outcomes such as intellectual skills, verbal skills, motor skills or attitudes, the basic process of learning is the same for everyone.

As described in Wright (1987), Gagné outlined nine events of instruction:

1. **Gain attention** by directing the students to the topic at hand. Challenge the students; arouse their curiosity; motivate learners. You may wish to use anecdotes or humour to arouse student interest.
2. **Inform learners of the objectives** by ensuring that they are aware of the instructional goals so that they may acquire the necessary 'mind set'.
3. **Stimulate recall of prior learning** by means of a pretest or a series of probing questions. Review establishes a firm base on which to build new information. Knowledge is gained by proceeding from the known to the unknown.
4. **Present stimuli with distinctive features** that are inherent to the learning task. This procedure will distinguish what has gone before and will direct attention. Diagrams, graphs, tables and models can support this feature of effective instruction. A reminder: Learners remember pictures and other visual representations better than words.
5. **Guide learning.** For learning to be efficient, the course materials should point students in the right direction. Materials should be clear and precise. Emphasise basic content principles or themes and show their similarities and differences. Use external prompts such as flowcharts. Urge students to construct logical arguments either for or against a point of view. Get students to apply what they know. Get them actively involved. Attend to individual differences.
6. **Elicit performance.** Periodic but frequent checks on the students' knowledge must be performed before they proceed to new topics. This may be done through written questions, tests and exercises. Give the students the opportunity to practise and to apply their newly acquired skills in different situations. (Note: Repetition and practice are not the same.)
7. **Provide informative feedback.** Positive feedback is best, provided it reassures the students, suggests remedial action

to improve their weaknesses and gives them the opportunity to go beyond the immediate situation (closely related to Item 8). Feedback that is given within a reasonable period of time is more effective than delayed feedback.

8. **Enhance retention and learning transfer.** Additional examples and exercises should improve the students' understanding of previously learned material and ensure the transfer of knowledge to new situations. It is important to apply new material to 'real life' problems and situations.
9. **Assess performance.** This is a more formal check than Item 6 (eliciting performance); it might be considered a summative evaluation or post-test.



Summary

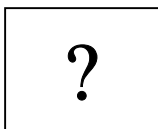
In this unit, we discussed the process of learning. We then looked at the relevance and application of Gagné's work to learning in the classroom.

This unit is important to you. You need to be aware of the processes that are going on in your pupils' minds and the methods or tactics to use to facilitate optimum learning of concepts and skills.



Reflection

Reflect on your role as a teacher. How will your teaching methods change, given the information gained from this unit? Are there specific aspects of Gagné's events of instruction that you can use in your classroom?



Unit Test

What do you think are the implications of Gagné's theory for teaching?

Possible answers to this question are provided at the end of this unit.



Suggested Answers

Self-Assessment 1

Below are the stages in Gagné's learning process:

- Motivation
- Attention
- Acquisition
- Retention
- Recall and retrieval
- Generalisation
- Performance
- Feedback

Self-Assessment 2

When making use of task analysis in your teaching, you may want to consider the following points:

- Make sure that your students have the prerequisite skills before you introduce a new concept.
- Do not teach the whole topic at once. Break it down into manageable units.
- Make sure that you move on to the next exercise only after your students have mastered and understood earlier exercises.

Unit Test

Gagné's work stresses the importance of each stage in learning. For example, securing the attention of your pupils and informing them of the instructional goals are essential steps in instruction. No learning can take place if your pupils cannot attend and listen to what you want them to learn. Your answer should have expanded on the importance of motivation, retention, recall and retrieval, generalisation, performance and feedback in the learning process.

UNIT 4: Learning in the Classroom



Introduction

The place of meeting for the teacher and the child is the classroom. We now need to discuss the methods that teachers can apply in the classroom to help pupils learn. We will focus on activity learning, the play method, discovery learning, group learning and individualised learning. These are not prescriptive. You may decide to consider other equally useful methods.

Objectives

After completing this unit, you should be able to:

1. Define the concept of learning in the classroom.
2. Discuss different types of learning that can occur in the classroom.
3. Outline how these approaches can be applied to the classroom.

Definition of Learning in the Classroom

In Unit 1, we defined learning as a relatively permanent change in the behaviour of an organism that results from its interaction with its environment (ZINTEC Module 14/1).

The *Longman's Dictionary of Contemporary English* defines classroom as “a room that you have lessons in at a school or a college”.

The phrase ‘learning in the classroom’ would therefore refer to a room in which learner behaviours are transformed through the efforts of a teacher.

Child-Centred Learning vs. Teacher-Centred Learning

Farrant (1988: 127) distinguishes child-centred learning from teacher-centred learning. In teacher-centred learning, it is the teacher's views that dominate. The teacher decides on the methods that will be applied in lesson delivery. In child-centred learning, the child plays a major role in deciding what to learn and how it will be learned.

You may be wondering why we refer to the learner deciding on what to learn. Modern thinking gives learners the opportunity to give input about what aspects to learn first. The learners set the pace at which concepts could be covered and the learners use those approaches that most appeal to them.

To obtain additional information about child-centred and teacher-centred learning, refer to Unit 2: Approaches to Learning in this module.

We should remind ourselves from the onset that some methods are more productive from the learner's point of view than others.

Activity Learning

Activity learning requires that pupils be exposed to some work as a means to an end. Farrant (1980) suggests that pupil activity should not be an end in itself but that it be a means to an end. The process of learning and the products of learning are both important.

You will probably recall from your teaching experience or from your school days that in the past pupils were made to sit for long hours while the teacher was lecturing to them. The following expressions come to mind:

- Kutetena or Kukuma (Shona)
- Unotebuka mbeli kwe bana (Chikalanga)
- Ukuqunsa or ukuchachamba (Ndebele)
- Ke a tshologa (Setswana)

The literal meaning of all the above expressions would be, "I am pouring knowledge or information into pupils."

The lecture method is not supported by pupils because pupils are not actively involved in the teaching-learning process. Pupils are made to occupy a peripheral role while the teacher talks to himself or herself.

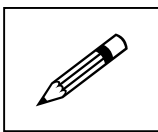
Activity learning ensures that pupils decide on how they learn. However, you have a role to play. Plan for the relevant activities that focus on your set objectives. It is not adequate to set tasks for the sake of it. If pupils are supposed to learn to add numbers from 1 to 10, then they should be given specific tasks leading to that process. To ask pupils to write numbers or add numbers generally will not serve the purpose.

Characteristic Features of a Good Activity

In our discussion of what a good activity should look like, let us refer to Farrant (1988: 133). A good activity should have the following features:

- It should be within the ability level of the pupils.
- It should lead towards learning concepts other than itself. It should be applicable to other situations.
- The activity must give satisfaction to the learners.

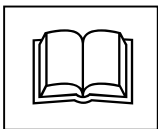
- The activity should be interesting so that learners go through the process in order to achieve the objective.
- Pupils should be free to express themselves.
- The teacher should avoid reminding pupils of previous failures.
- The activity should help pupils to gain better understanding of the concepts being learned.
- It should focus on the development of a specific skill.
- It should help the pupils to discover new knowledge through exploration.
- It should help the pupils to apply new skills or knowledge to real situations.



Self-Assessment 1

What could be wrong in making the activity method an end in itself rather than a means to an end?

Possible answers to this question are provided at the end of this unit.



The Play Method

Unlike lower animals that depend on instinct entirely for their reactions, humans and higher animals have the capacity to change their behaviour (Farrant, 1980).

Play allows human beings to experiment. As a learning tool, play serves the following functions:

- Pupils are able to demonstrate competence through play.
- Play nurtures pupils' imaginations.
- Play allows for experimentation to take place.

How many times have you heard teachers order children in their class to think when there is dead silence after pausing for a question? They will say, "Think! Think! Think!" The best way to make them think is to appeal to their sense of imagination through play.

Play could be applied in singing lessons, physical education lessons and language lessons through drama. Art lessons could involve play methods when pupils draw or mould objects on their own and display their art. This learning approach appeals to children because the process of learning is made less formal. This enables them to produce their best work.

Discovery Learning

The greatest inventions are all due to discovery learning. Is it not true that the wheel came about accidentally? What does

history say about the way iron was discovered? Somebody made a fire on a rock; the heat melted the ore, which later solidified into metal.

Discovery learning should be used more frequently in our schools. Teachers may feel threatened by it because discovery learning allows the children to come up with new ideas that may be unknown to the teacher, who is no longer the only source of information.

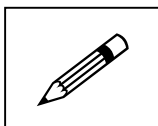
Farrant (1988) has suggested that the approach is better applied under informal rather than formal learning conditions. However, even with the informal approach, the teacher must thoroughly prepare for the lesson.

- The place where discovery learning takes place must be identified.
- Observation tools must be provided.
- Time should be stipulated. Determine how much time you will devote to this activity.
- Data recording methods must be clarified.
- A time should be established to report discoveries made during the activity.

Discovery learning has much in common with other approaches such as play and experimentation. Thus, the structure followed by Farrant, in which the problems have to be identified and the objectives clarified, follows the scientific methods. We may avoid the more structured methods in carrying out discovery learning because pure experimental designs in research may make some teachers feel uncomfortable.

Discovery learning does not need to be a protracted experimental process. The level and age of children will dictate the tone and depth of the activity.

With Grade 1 or Standard 1 pupils, you can lead them to discover the oneness of one by using counters or to discover the difference between the letters 'b' and 'd' by carefully looking at letters on word cards. Discovery learning can be used with all students regardless of their age or grade level.



Self-Assessment 2

What do you see as the major similarities between the play method and the discovery learning approach?

Possible answers to this question are provided at the end of this unit.



Group Learning

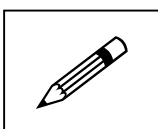
Farrant (1988: 141) distinguishes between large-group and small-group learning. Large-group learning may involve as many as 50 pupils, all taught by one teacher. The teacher may apply the lecture method in order to reach all pupils within the set time. Mass media lessons through the radio and television follow the same approach. Some disadvantages of large-group learning are as follows:

- Slow learners are forced to keep pace with fast ones.
- Fast learners may be slowed down, as the instruction is provided at a rate that may be comfortable to most learners.
- The teacher is unable to pay attention to individual pupils.

The small-group learning approach may address some of the shortcomings of the large-group approach.

Depending on the size of the class, the class can be broken into small groups of about 4 pupils. Each group is headed by a monitor who will help the teacher in the distribution and collection of materials. The group monitor or leader also helps to organise the team members. The teacher gives each group work that is relevant to its level of understanding. The advantages of this approach are many:

- Each pupil within a group can more easily work at a pace that suits him or her.
- The teacher has time to attend to students who need help because other groups may not need the teacher at the same time.
- Group leaders help the teacher to handle class work.
- Pupils have the opportunity to gain leadership skills when they act as monitors or group leaders.
- Pupils learn to work as a group and to manage their own affairs.



Self-Assessment 3

1. Compare and contrast the large-group and small-group methods of teaching.
2. In your opinion, why is it difficult to implement an individualised learning approach?

Possible answers to these questions are provided given at the end of this unit.



Individualised Learning

In this approach, children work on their own. They may be asked to answer questions, to write an essay or to solve a mathematical problem. If properly done, individualised learning would require each child work to meet individualised, specific targets. Farrant (1980: 142) cites Fred Keller as making the following suggestions:

- The student must master each part of the course before moving to the next.
- Each student must progress at his or her own speed.
- Feedback is crucial to the effectiveness of this instructional method.

The group work that many of us assign our pupils frequently falls short in that we make all pupils do the same amount of work instead of adjusting it to meet the different ability levels of pupils. Many of us fail to ensure that all pupils have mastered the work before moving on to the next activity or assignment.

If you are not able to provide an individualised approach to every pupil, consider using small-group methods so that each group can move forward only after mastering its learning tasks. Try the approach and see how it works for you and your pupils.

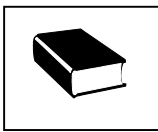
We have now looked at the main approaches that teachers may employ in the classroom. Some elements of each approach may be appropriate for your situation. As a teacher, you will need to take the most relevant elements from each approach and then apply them.

Implications for the Classroom Teacher

We conclude this discussion with ten guidelines for teachers who are planning classroom learning experiences:

- The approach to be used should be outlined in the lesson plan.
- The approach used should be varied from lesson to lesson. Pupils should not be able to predict the way the lesson will proceed.
- Whatever method you choose, list the lesson objectives and state them clearly in measurable terms.
- When group leaders or monitors have a role to play in the lesson, clearly outline their duties in advance.
- Pupil activities should be provided in all lessons. Learners should do more than just listen to the teacher. Whatever they do, they should be working towards the achievement of the specific objectives.

- Activities to be completed by the students must be at a suitable level for them. The students must be capable of successfully completing the tasks you have assigned.
- When children have completed their work, it should be marked quickly and handed back to them. Provide them with helpful feedback. If one of their responses is wrong, explain why or ask questions that will help them find the correct answer.
- It is important to ensure that pupils have grasped basic concepts before introducing new work.
- Use the best elements of each teaching and learning approach in your classroom.
- When children make new discoveries, reward them by talking about it, thanking them or displaying the work.



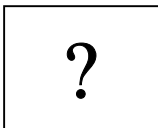
Summary

This unit has directly focused on the work of the teacher in the classroom by outlining some of the methods that could be used. The unit highlighted five approaches: activity learning, the play method, discovery learning, group learning and individualised learning. A summary of key implications was then presented. These suggestions should help you to improve your lesson planning and presentations.



Reflection

Before you leave this unit, review the suggestions at the end of the unit. Then list three suggestions that you will implement in your class during the next week.



Unit Test

1. Which teaching and learning approach is appropriate for each of the situations described below?
 - a. To present a large amount of information to all the students.
 - b. To allow students to interact with each other and develop social skills.
 - c. To allow pupils to work on a topic they like and proceed at their own paces.
 - d. To allow students to experiment and go beyond the normal class objectives.
 - e. To provide the students with the opportunity to learn leadership skills.
2. a. What are some of the issues that discourage teachers from applying discovery learning methods?

- b. How can those factors be changed to give the teacher more confidence in using the discovery learning approach?

Possible answers to these questions are provided at the end of this unit.



Suggested Answers

Self-Assessment 1

Reasons why it would be wrong to make activity learning an end in itself could include the following:

- The lesson will be misdirected, and therefore, the objective would not be met.
- The lesson would not be assessed, as there would be no criteria for assessment.

Self-Assessment 2

Below are some of the similarities between the play method and the discovery approach.

- Both play and discovery learning include pupil participation.
- The teacher guides or facilitates and the pupils do the learning.
- In both methods, there is an objective to be met.
- Pupils may form their own conclusions that are relevant yet unforeseen by the teacher.

Self-Assessment 3

1. Comparison of large-group and small-group teaching methods:

- The groups have one teacher who takes charge of the activities in the classroom.
- In both cases, one teacher is shared among many pupils.

Contrast between large-group and small-group teaching:

- In large-group teaching, individualised needs can be difficult to address. When a small-group method is employed, time is made available for the teacher to help individual pupils.
- In small groups, pupils can deal with different levels of content. In large groups, all students deal with the same level of content.

2. It may be difficult to implement an individualised learning approach because:

- the resources required for different levels of students may not be available,
- it would be a challenge to keep order in the classroom,

- the teacher would have a lot of record-keeping to do in order to record the achievements of each student, and
- the headteacher may not support such an approach.

You may have other suggestions you could add to the list.

Unit Test

1. A suggested approach for each situation is provided below.
 - a. lecture method or teacher-centred approach
 - b. group work
 - c. individualised learning
 - d. discovery learning
 - e. group work
2. a. Issues that may discourage teachers from employing discovery learning are many, but the following could be among them:
 - lack of knowledge about the approach,
 - fear of being different,
 - inability to handle unfamiliar information that pupils may discover,
 - lack of tools to help pupils in the learning process, and
 - negative attitudes on the part of other teachers or school officials.
- b. Ways to change the factors that may discourage the use of discovery learning are suggested below.
 - If you are unfamiliar with the approach, find out more about it. Then try it. The best way to learn is to try.
 - Apply simple lesson structures.
 - Seek support from the community because community members may suggest ideas, be willing to volunteer as guides, provide a location for the discovery learning to take place or provide tools and materials.
 - Change attitudes by explaining what is involved, asking those with a negative attitude to help the students as they complete discovery activities and showing others what your students have accomplished.

UNIT 5: Learning Difficulties



Introduction

This unit introduces you to learning difficulties, which is a very broad topic to cover in one unit. We will discuss characteristics of learning difficulties, the effects of labelling pupils with learning problems and the intervention strategies that you can use when teaching pupils with learning problems.

You should find this unit very relevant. In your teaching career, you are most likely going to meet pupils with learning problems. If you read through this unit, you will be better able to assist these pupils.

Objectives

After completing this unit, you should be able to:

1. Define learning difficulties.
2. Outline the characteristics of learning difficulties.
3. Analyse the effects of labelling.
4. Discuss intervention strategies.

Defining Learning Difficulties

What do we mean by the term 'learning difficulties'?

Learning difficulties can cover a wide range of problems, each of which will affect how and what a particular individual learns. You may notice that children with learning difficulties seem slower to mature and take a longer time to grasp concepts than most children of their age do. They are sometimes referred to as slow learners or children with learning disabilities.

Characteristics of Learning Difficulties

Pupils with learning problems or disabilities frequently show poor or well-below-average performance in:

- oral expression,
- written expression,
- listening comprehension,
- reading comprehension, and/or
- mathematics.

In addition to these basic characteristics, there are other characteristics that are common among children with disabilities. We will review these characteristics along with the

intervention strategies that you can use to assist the slow learner. This section is based on the work of Montgomery (1990).

Memory

You may have noticed in your teaching career that children with learning difficulties usually retain ideas poorly. They forget easily. You may have noticed that they will get confused if you give them too many instructions at one time. Their memory is limited. If one of your pupils fits the above description, what can you do?

In order to help children with poor memories, you need to:

- give clear and very short instructions,
- keep the learning process lively,
- make use of the children's experiences,
- use concrete examples in your illustrations,
- give the pupils short paragraphs to read,
- stop them occasionally to ask questions and check for comprehension,
- give the pupils time to reflect on what they have read, and
- ask the pupils to retell the story they have read.

Language

The slow learner's poor retention of ideas can lead to limited language comprehension, limited vocabulary and limited powers of oral and written expression. What can you do to encourage language development in your slow-learning pupils? You can encourage group discussions on topics of interest. Make sure that all pupils are actively involved in the discussions. Montgomery (1990) tells us that learning experiences are best understood and internalised when the children discuss what they experience and put their ideas into words. Your pupils can discuss structured tasks on their own and then express their ideas in writing.

You must also encourage the expression of ideas in various forms such as drama or art. Ask the pupils to talk about what they have drawn or painted.

Thinking

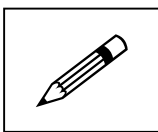
In addition to their poor receptive and expressive language skills, pupils with learning difficulties may have very limited comprehension skills.

Pupils with learning difficulties may be unable to generalise from their observations. They may fail to learn what some of your other pupils learn easily without being taught by anyone.

For pupils with learning disabilities, learning is task-specific. They have difficulties in applying what they have learned to other situations.

In order to help these pupils, implement some of the suggestions provided earlier in the memory section of this unit. Ensure that you use plenty of concrete examples, give clear instructions, make use of the children's experiences and provide frequent and informative feedback.

Try to provide individualised instruction. If you have a pupil with learning difficulties in your class, you can develop a set of learning objectives for that particular pupil. Consider giving that pupil more tutoring time while the other pupils are doing a different activity.



Self-Assessment 1

What problems are exhibited by pupils with learning disabilities?

Possible answers to this question are provided at the end of this unit.



Labelling

You might be wondering what labelling is and why you need to know about it. Simply put, **labelling** is categorising. When you place an individual into a certain category because the individual displays certain characteristics and features, you are labelling.

You may argue that labelling is important and necessary because you cannot deal with a problem unless it is identified.

If you label a pupil as being mentally retarded, place that pupil in a class with other mentally retarded pupils and assign a teacher for them, what have you done? Do you think this is the best solution? Are you solving a problem or creating other problems?

Yelon and Weinstein (1977) describe labelling beautifully. They state that “a label is by its very nature, a kind of verbal shorthand, an incomplete description of a human being”.

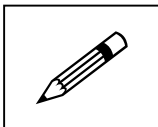
Take time to reflect on labels. Have you noticed that they often emphasise the negative? Consider, for example, the following labels: emotionally disturbed, learning disabled, mentally retarded and visually handicapped. Imagine if one of the above labels referred to you. How would you feel? How do you think your pupils will feel with such labels on them?

You would be correct if your answer is that these labels lead to a lowered self-image, inferiority complex and lack of self-

confidence. With these perceptions about themselves, do you think these pupils will be in a position to learn anything? Negative labelling is a **self-fulfilling prophecy**. This term means that you act according to what or who you are made to believe you are. Once labelled mentally retarded, the child may begin to act retarded. Labelled stupid, the child will act stupidly. This applies not only in the school environment, but also at home, in society and at work.

You should also note that labels ignore other aspects of the child's personality or development. Labels reduce the child with many needs to a single category. For example, we may conclude that Chipo is mentally retarded. This umbrella label obscures the fact that while Chipo might have a learning problem, she might also have a very pleasant personality.

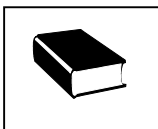
As a teacher, you must be very careful about what you call your pupils. This is because the labels that you give them may affect them for the rest of their lives. Always remember that you are dealing with very fragile human beings, and they need to be handled as such. You must treat them with respect.



Self-Assessment 2

What problems have you noticed in your pupils that may be a direct result of labelling?

Possible answers to this question are provided at the end of this unit.



Summary

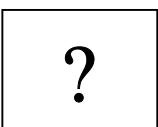
In this unit, we focused on what is meant by the term 'learning difficulties'. We also looked at the characteristics of learning difficulties and some intervention strategies that you can use to assist pupils with learning problems. We discussed labelling, what it is and the effects of labelling on your pupils.

We hope that the knowledge gained from this unit will assist you in helping some of your pupils who might have learning problems.



Reflection

Imagine that you have a learning problem. How would you like to be treated? How could you be helped?



Unit Test

1. What intervention strategies could you use to assist pupils with learning problems?
2. What advice could you give to teachers who tend to label students?

Possible answers to these questions are provided at the end of this unit.



Suggested Answers

Self-Assessment 1

Pupils with learning difficulties may exhibit:

- poor and below-average performance in school subjects,
- poor memory,
- poor receptive and expressive language,
- poor comprehension, and/or
- poor oral and written skills.

Self-Assessment 2

Students who are labelled may:

- act as they are labelled (self-fulfilling prophecy),
- have lower self-esteem, self-concept and self-confidence, and
- not exhibit all of their positive characteristics.

Unit Test

1. In order to assist pupils with learning problems, you could use the intervention strategies below.
 - Give clear, short instructions.
 - Make use of pupils' experiences.
 - Use concrete examples.
 - Encourage group discussions of ideas in various forms.
 - Give lots of examples in your illustrations.
2. The following advice could be provided:
 - Be careful in labelling students. A negative label can affect how they think and feel about themselves, and what they do now and in the future.
 - Treat all students with respect. Think of how you would feel if you were that student.

UNIT 6: Learning and Motivation



Introduction

In this unit, we are going to examine the importance of motivation in learning. We will discuss the theories of motivation and the application of these theories to teaching. You may feel that your job is that of teaching and making pupils learn, but have you ever taken time to think that teaching to uninterested pupils does not accomplish much? You need to know how to stimulate interest in learning. This will make your job easier because well-motivated pupils learn more and learn faster than poorly motivated ones. The time you spend in motivating your pupils is time well invested. The study of motivation is therefore very crucial to your work in the classroom.

Objectives

After completing this unit, you should be able to:

1. Define the concept of motivation.
2. Discuss theories of motivation.
3. Apply the theories of motivation to teaching.

In order to understand this unit, you need to know what motivation is. Yelon and Weinstein (1977: 294) state that, “A motive is what causes a person to act in a certain way.”

Let us look at another definition given by Zindi, Peresuh and Mpofu (1995: 111). They define **motivation** is an intervening process or an internal state of an organism that impels or drives it into action.

Theories of Motivation

We are going to focus on three theories that can be of immediate use to you as a teacher. These are the achievement motivation theory, Maslow’s hierarchy of needs theory and the behaviourists’ theory of motivation.

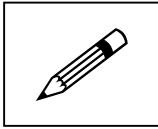
Achievement Motivation Theory

The name of the theory is self-explanatory. This theory states that it is the need to achieve that motivates us into action. Atkinson (1964), cited in Zindi, Peresuh and Mpofu (1995), views **achievement motivation** as “a want or wish to perform with adequacy and excellence as measured against specific standards of attainment”.

As human beings, we are always trying to enhance and improve our own sense of self-worth. We will try very hard to safeguard

our self-concept. The ways we value ourselves depend on our ability to achieve. Think about how this applies to you and your efforts to become a teacher.

According to achievement motivation theory, it is the drive to do something well, rather than to do something for rewards or praise, that motivates us. Self-satisfaction is the driving force behind achievement motivation.



Self-Assessment 1

1. Define motivation.
2. How can you make use of achievement motivation theory in your teaching?

Possible answers to these questions are provided at the end of this unit.



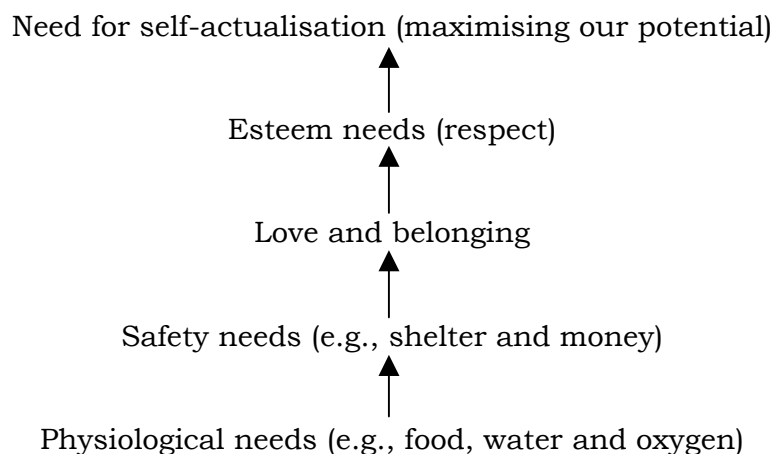
Maslow's Hierarchy of Needs Theory

Now let us look at another very famous motivational theorist. Maslow's theory (1968), cited in Yelon and Weinstein (1977), proposed a hierarchy of needs. This hierarchy is the basis of human motivation.

According to this theory, we are activated to act in order to fulfil certain needs. Basic needs must be satisfied before we can take action to satisfy other needs.

Let us now look at the hierarchy itself (adapted from Yelon and Weinstein, 1977):

Maslow's Hierarchy of Needs

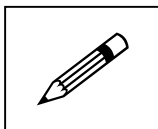


At the bottom, you have physiological needs, for example, food and water. When these needs are satisfied, you are motivated to satisfy higher needs. That is, you go on to the safety needs. The trend continues up to the level where you satisfy your need for self-actualisation.

Maslow's assumption is that you cannot skip certain levels of needs. You go through the needs in the hierarchical order as proposed in the theory. For example, you cannot satisfy your physiological needs and go straight to the need for self-actualisation without first satisfying the needs for safety, love and esteem.

Implications of Maslow's Theory for Teaching. Below are some of the implications of Maslow's theory for teaching and education in general. Can you relate any of your own experiences to them?

- In Maslow's theory, physiological needs come first. Hunger and thirst must be satisfied before there is motivation to do anything else. If your pupils are hungry, they are not going to be motivated to learn. Your efforts in teaching them will be wasted. How will you ensure that your pupils are well fed?
- Your pupils need to feel secure, safe and free from any kind of harm. Make your classroom atmosphere relaxed and friendly. Your pupils should feel secure with you. If your pupils do not feel safe and secure with you, they will not be motivated to listen and learn.
- The need to belong and to be cared for is very important for your pupils. A pupil who is an outcast and is always being ridiculed by you or the other pupils is not going to be motivated to learn.
- The need for self-esteem is also crucial to learning. You need to instil confidence in your pupils to make them feel worthy and important. Always remember that positive self-esteem facilitates learning. If you suppress this need for self-esteem in your pupils, you will produce pupils who are timid and insecure. They will not be working at their full potential.



Self-Assessment 2

If you applied Maslow's theory of hierarchical needs to your classroom, what would you do for your students?

Possible answers to this question are provided at the end of this unit.



The Behaviourist View of Motivation

We are now going to focus on the behaviourists' views about motivation. Behaviourists believe that motivation, like learning itself, is subject to the principles of conditioning. It is controlled by the conditions of the environment.

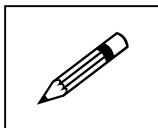
According to this theory, you, the teacher, play a very important role. Why? This is because behaviourists believe that motivation is controlled by the conditions of the environment. It

is therefore up to you, the classroom teacher, to see that the classroom environment is structured so students will learn.

Application of Behaviourist Principles to Education

You can easily apply principles of the behaviourist approach in your classrooms. Consider the following points:

- Structure the classroom environment so that pupils will be motivated. How can you achieve this? You should plan your learning tasks in such a way that they have pleasant associations. Positive reinforcement is the key factor.
- Make the learning process enjoyable and productive. You can achieve this by using a 'games' approach to learning.
- Make your classroom lively and colourful. Make the school pleasant to be in.
- Provide numerous learning activities for pupils with different interests and skill levels.



Self-Assessment 3

Describe at least three ways that you can apply behaviourist principles to your classroom.

Possible answers to this activity are provided at the end of this unit.



Summary

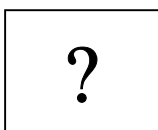
In this unit, we defined the concept of motivation and then discussed the significance of motivation in learning. We also looked at three theories of motivation and how the teacher can apply them in the classroom.

A pupil who is motivated is a pupil who is willing to learn. We hope that this unit has given you information and skills that will help you motivate your pupils.



Reflection

Reflect on your role as a teacher. How can you ensure that all your students are motivated? Remember that you may need to use ideas from all three theories presented in this module.



Unit Test

Compare and contrast the three theories of motivation discussed in this unit.

Possible answers to this test are provided at the end of this unit.



Suggested Answers

Self-Assessment 1

1. Motivation can be defined as an intervening process or internal state of an organism that drives it into action.
2. Achievement motivation theory might lead you to:
 - instil a sense of achievement in your pupils,
 - raise your pupils' self-esteem, and
 - facilitate the growth of positive self-concepts in your pupils.

Self-Assessment 2

If Maslow's theory were applied to your classroom, you would do the following:

- Realise that no learning would occur until basic needs were met; therefore, you would ensure that needs associated with the first four levels of the hierarchy were met.
- Know the needs of each student at various times and try to address them. For example, if a child came to school hungry, you would try to find some food.
- Consider the pupils' physiological needs, safety needs, belonging needs, self-esteem needs and self-actualisation needs throughout the instructional period.

Self-Assessment 3

If you applied behaviourist principles to your classroom, then it is likely that you would do the following:

- Ensure that you provided a colourful and lively classroom environment.
- Engage the learners in the learning process by having them do a variety of meaningful activities.
- Provide positive and encouraging feedback.
- Encourage the learners to work with others so that they develop social skills.
- Provide plenty of opportunities for your pupils to apply their new skills.

Unit Test

In your answer regarding the three theories, you should be able to address the following:

- What motivates the individual, according to each of the theories?
- What are the different implications for the teachers in all the theories?

For example:

- In the achievement motivation theory, it is the need to achieve that motivates an individual.
- In Maslow's hierarchy of needs theory, it is the desire to satisfy certain needs that motivates people.
- In the behaviourist approach, it is the environmental factors, the consequences of certain behaviours, that motivate people.

The achievement motivation theory appears to view motivation as primarily an internal driver, whereas Maslow's and the behaviourists' approaches highlight environmental factors that appear to be missing from the achievement motivation theory.

UNIT 7: Factors Influencing Learning



Introduction

Up to this point, this module has presented approaches to learning, learning in the classroom, theories of learning, the process of learning and learning disabilities.

While we discussed these topics, we also examined some aspects that may affect the learning process. Factors that may influence learning are critical to the classroom teacher. We need now to review these factors from the various sections so that they stand out clearly.

The process of learning is influenced by a wide range of factors that include sociological, psychological, environmental, economic and teacher-related factors. In this unit, we will look at the effects of socio-economic factors and the effects of the following learning conditions:

- readiness
- motivation
- reinforcement
- practice
- application.

Objectives

After completing this unit, you should be able to:

1. Define the key concept of learning.
2. Discuss socio-economic and learning condition variables and their impact on learning.
3. Analyse how the factors could be managed in favour of learning.

Definition of the Concept of Learning

By now, you should be able to define learning. However, there is no harm in looking at the concept again.

Unisec, Lockhart and Walters (1990: 87) define **learning** as “a relatively permanent change and one that changes as a result of experience”. The authors quoted above look at learning as a phenomenon that cannot be directly observed. Instead, we can determine whether or not learning has occurred by observing the way an individual behaves.

Behaviour change is relatively permanent, but people may lose skills we assume they have acquired. For example, someone who has a driver's license may fail a road test. The relative nature of learning therefore seems to suggest that classroom teachers need to review even those concepts they believe have been thoroughly covered.

Effects of Socio-Economic Factors on Learning

Socio-economic factors in this discussion are concerned with the status of the child's family background. Some children come from rural homes, farms, mines, missions, stations and urban environments. Why is this important for you to know?

Schools set specific regulations for children to follow. These include dress, fees payment and purchase of reading materials. Pupils from certain environments may not be able to afford the materials expected of them, not because they want to cause problems, but because the family members are poor. As a teacher, you need to be aware of these types of situations.

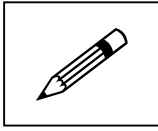
Some children come from rich home backgrounds. They may even drive to school. They have television sets and other modern conveniences. Such children could advance faster in class than other students. They may have a variety of books; therefore, they can be assigned homework. When students have unequal access to learning resources, economic background becomes a factor that influences learning.

The result is that if you operate in schools in communities that have a low socio-economic status, you will have to do more to obtain the necessary teaching and learning materials that you and your students need.

You may also need to move at a slower pace because the pupils may lack background information in a number of areas. This is particularly true in isolated communities where radios, television sets and newspapers are not available.

Children who live in homes with no electricity cannot be expected to progress at the same rate as children from homes with electricity. A child who walks to school some 4 kilometres without food cannot be expected to accomplish as much as a child who is driven to school after an adequate breakfast.

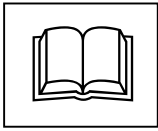
This knowledge is important to you because it will influence your attitudes and involvement in the welfare of your pupils.



Self-Assessment 1

Name three aspects that differentiate urban from rural pupils in terms of learning.

Possible answers to this activity are provided at the end of this unit.



The Effect of Learning Conditions on Learning

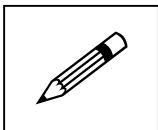
This section is merely emphasising aspects that we have already covered in other units in this module and in Module 9. Let us look at these concepts one by one.

Readiness

Readiness refers to the state of maturation. The more mature one is, the more likely that the individual will be able to complete certain tasks. This view influences schools to place children in formal education classes after a certain age. For example, most communities enrol pupils into Grade 1 or Standard 1 only after they have attained the age of 6 or 7 years. Generally, children who come to school below this age are not admitted.

The introduction of concepts also has to be geared to the age of the children. Similarly, workloads have to take into account the ages of pupils. Young children cannot sit for long periods of time. They need changes to keep them interested.

Practical subjects must also be planned to take into account the age of the pupils. Children who are below certain age levels should not be asked to perform certain activities. For example, pupils with three years of schooling cannot be expected to use a saw in the woodwork shop.



Self-Assessment 2

1. Define learning.
2. How do socio-economic factors affect how children learn?
3. You are assisting the head of the school to enrol pupils into infant grades. How would you decide who to take and who to leave out, and why?

Possible answers to these questions are provided at the end of this unit.



Motivation

All human beings do whatever they do because they want to satisfy a need or a want. You are teaching because you want to satisfy a need, that of having a job. But you could also want to teach because you will be helping others to learn. The wants people have become motivation for them to perform certain tasks.

Children initially may come to school because somebody is forcing them to. Other children go to school because they want to be like their parents when they grow up. Such children will view school as being necessary and therefore will tend to do well.

Whatever state of mind children may have, your task is to see that they enjoy their stay at school. This can only be possible if you make learning meaningful by relating the content to their own experiences. Do not make lessons too difficult, or they will be frustrated. Do not make them too easy, or the children will be unchallenged and bored.

Motivation that yields the best results comes from within the child (called **intrinsic motivation**), as opposed to motivation that comes from outside the child (**extrinsic motivation**), which happens when parents force the child to go to school.

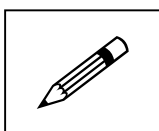
Reinforcement and Learning

You will remember that in our discussion of the theories of learning, we introduced the concept of reinforcement. We said a stimulus should be closely linked to the response if the actions are to be repeated. We also said pupils expected feedback from the teacher soon after the activity. Pupils who perform well in mathematics will continue to do well if the teacher gives immediate recognition of their good work. If nobody recognises the good that the child does, then the next time, the child might say, “Why bother?”

Linking Learning to Practice and Application

After you have taught children a new lesson, for example, when children have been learning about how to write an essay on vegetable growing, they should practise writing the essay following the structure suggested. However, teaching should not end at this stage. The children should be asked to apply what they have learned by actually growing the vegetables. The latter activity will consolidate their knowledge.

Remember that teaching should not end with practice; we should also have children apply the knowledge acquired.



Self-Assessment 3

Identify five conditions that support learning.

Possible answers to this activity are provided at the end of this unit.



Summary

This unit started by presenting the factors that influence learning. We then looked at socio-economic factors and learning conditions. In the latter sections, we discussed four aspects:

- readiness,
- motivation,
- reinforcement, and
- practice and application.

This unit has attempted to help you understand the relationship between children's level of maturity and their ability to learn. Reflect on them each time you are teaching.



Reflection

In what way does knowledge of the importance of practice and application help you to change your teaching strategies?



Unit Test

Describe how you will motivate a pupil who says to you, "I do not need school because my parents have businesses. I will go and work for them."

Possible answers to this test are provided at the end of this unit.



Suggested Answers

Self-Assessment 1

Below are some factors that may differentiate urban pupils from rural pupils:

- different resource base (Some urban-based children are likely to have access to more resources than children in rural areas.)
- the presence or absence of electricity
- distances travelled and mode of transport
- attitudes towards school.

Self-Assessment 2

1. Learning is a relatively permanent change in behaviour.
2. Socio-economic factors may have a direct effect on how children learn. Those children who lack proper food may not have the strength to learn, and they may be inattentive because their minds are focussed on hunger rather than on learning. Students who have no electricity at home or who cannot afford reading materials such as textbooks may be at a disadvantage because it may be difficult for them to do homework.

You may have other items you could add to this list.

3. The decision could be based on the age levels of the pupils (maturation). Initially, take all those from 7 years of age. If room still exists, take the 6-year-olds.

Self-Assessment 3

Five conditions that support learning are:

- readiness,
- motivation,
- reinforcement,
- practice, and
- application.

Unit Test

If the pupil demonstrates an interest in some area, you may cultivate this interest in planning lessons for this child.

Encourage the pupil to put emphasis on mathematics in order to help him or her with calculations that are relevant to a shop. If the child is young, you could introduce a variety of play methods such as those discussed in Unit 4. The play methods will make learning more interesting for all of the pupils.

Find out the type of businesses the pupil's parents have. You might be able to adjust your lessons to include activities that are relevant to their businesses. You could also invite the parents to school to talk about how education could help their businesses.

UNIT 8: Assessment of Learning



Introduction

Every learning outcome should be assessed. We need to know if we have arrived at our destination. Unless we assess the learning that takes place in our classes, we may never know whether what we are doing is of any value to anybody. This unit will therefore try to give you the necessary tools to carry out this task.

The unit will start by discussing terms used in the assessment process. We will then explain why assessment should be done in schools. This discussion will lead to a detailed discussion about the methods used in the assessment of children's learning.

Objectives

After completing this unit, you should be able to:

1. Define the concept of assessment.
2. List some of the reasons why learning is assessed.
3. Describe methods of assessing learning.

Definition and Rationale for Assessment

Farrant (1988: 146) defines assessment as “the process by which the quality of an individual's work is judged in schools”.

Hopkins, Stanley and Hopkins (1990: 1) state that assessment “is not limited to the use of highly developed and refined instruments”. This point is further clarified by Farrant (1988: 146) who submits that “assessment of learning is usually carried out by the teacher on the basis of impressions gained as they observe their pupils at work or by various kinds of tests given periodically”.

Hopkins, Stanley and Hopkins (1990: 1) agree with this interpretation of assessment when they say,

Certainly thermometers, yardsticks and stopwatches can be used to measure temperature, distance and time. But their variables can also be assessed informally by observation – by the *‘trained eye’*.

This definition emphasises the point that assessment does not depend entirely on the use of standardised techniques. Teachers, however, need to base their assessments on objective

measurements, particularly in subjects such as mathematics and science.

In the educational literature, there are many other terms that may be used in relation to assessment, although some of them may not mean quite the same thing. Farrant (1988:147) identifies the following terms:

- Check
- Examine
- Inspect
- Measure
- Prove
- Test
- Try

Although these terms may not fully describe the process of assessment, the end result will give information that will help teachers gain insights into what is happening in a class. An assessment exercise can help us in a number of ways. Farrant (1988) says assessment may help us to do the following:

- Tell the amount of something.
- Establish capabilities of learners.
- Help in the process of selection.
- Maintain set standards.
- Test what people claim.
- Test the level of knowledge pupils have.
- Discover weaknesses.
- Measure specific abilities.
- Stream children according to their abilities.
- Predict the level of specific pupils.
- Select pupils for specific classes.

Assessment of our pupils should be an ongoing exercise. As soon as pupils come to you, you need to know their level of operation and level of motivation. For example, you assess them to get information on which to base your teaching methods.

During the actual lesson, you assess them through questions, group discussion and individual written work. After a unit, you also assess to establish the progress being made. After the end of a course, you assess the learners to test the level of knowledge they have acquired.

During the course of the term, you may assess in order to discover weaknesses so that you can offer extra help or remediation. You may also assess in order to discover specific abilities, for example, the shaping of letters in writing lessons or the ability to add numbers.

We may also assess learners in order to confirm what is generally believed. For example, educational authorities could believe that class X needs help in mathematics because they cannot do specific operations. That class would then be assessed in order to confirm or reject the belief.

Now that we have justified the need for assessment in schools, let us look at some assessment procedures.

Testing and Examinations

“The most common form of testing used in education to assess learning is the examination” (Farrant, 1988: 148).

Hopkins, Stanley and Hopkins (1990: 3) present a paradox about testing. They argue:

while assessments of achievements and competence are being more urgently called for and more widely employed than ever before, tests are at the same time, being more sharply criticised and more strongly opposed.

Granted, tests can be difficult to construct and they are not always reliable indicators of achievement, but we do gain a more valid impression about the learner’s performance when we use tests than when tests are not used.

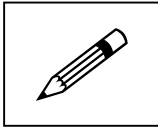
Internal and External Tests

When a class teacher prepares a test for his or her learners, it is referred to as an internal test. If a person who does not know the learners sets the test, then it is called an external test.

Types of Tests

Below are different types of tests that are described by Farrant (1988).

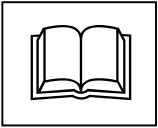
- Intelligence tests – designed to determine the level of the learner’s intelligence as measured by an intelligence quotient or IQ.
- Personality tests – designed to establish qualities possessed in order to describe personality. These are rarely used in classroom settings.
- Diagnostic testing – to determine critical weaknesses in order to offer remedial lessons. Generally, psychologists administer these tests.
- Aptitude tests – used to test specific abilities for specific functions, tasks or roles. Could be used to place the learners into specific disciplines.
- Achievement tests – simply designed to measure each learner’s ability. This type of test is used by all teachers.



Self-Assessment 1

Briefly describe what each of the following tests measures: intelligence test, personality test, diagnostic test, aptitude test and achievement test.

Possible answers to this activity are provided at the end of this unit.

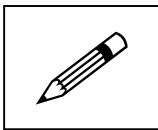


Why Should You Test?

You should be concerned with issues that relate directly to your class teaching and how much pupils are learning. According to Farrant (1988), testing can be used to accomplish the following tasks:

- Determine what the pupils have learned.
- Assess the level of skill development.
- Ascertain the level of understanding of concepts and principles.
- Measure speed and accuracy in making calculations.
- Assess the ability to apply the information and knowledge acquired.
- Assess the ability to operate at high levels of reasoning, such as at the analysis and synthesis levels.
- Give practice for external examinations.
- Motivate children.
- Provide a basis for feedback to parents at the end of term.

Do you have other reasons that you could add to the above list?



Self-Assessment 2

Why should teachers test their learners? Provide three reasons.

Possible answers to this question are provided at the end of this unit.



Objective Tests

In this type of testing, the question is designed so that there is only one correct answer. For example, given the expression $2+2$, the answer to the expression is correct if it is 4 and wrong if it is any other number.

There are a variety of different types of objective tests. These are described below.

True/False Questions. For example, ZAMBIA IS IN AFRICA, T/F. The learner will circle the correct answer. In this case, the answer is true, and the learner would circle the 'T'.

True/false questions test recognition and are easy to score. Sometimes it can be difficult to make up statements that are absolutely true or false.

Filling in Blank Spaces. Part of a question is given and the learner is asked to complete the statement.

For example:

The name of your father is _____.

These types of questions can be used to test various types of learning, but they are best for testing associations and recognition of facts. However, they can be difficult to write if you want to reduce ambiguity.

Multiple-Choice Test. One statement is given and several answers are provided. Only one of the possible answers is correct. Learners underline, circle or tick the correct one.

For example:

Dogs have (hours__, hoofs__, tails__, branches__).

Multiple-choice tests can be used to test all levels of learning. They are easy to score and can be very reliable. They are difficult to write, especially if you want to reduce guessing.

Matching Pairs Test. Two sets of statements are given but they are not properly aligned to make meaning. The learners must recognise the correct statements.

For example:

- | | |
|-------------|------------------------|
| (i) I am | (gone to town early.) |
| (ii) I have | (going to town early.) |

One-Word-Answer Test. A question is given, but the instruction demands that only one word be given as an answer. This saves time and makes marking easy. However, these tests usually measure only the lower levels of learning.

For example:

How many days are in the month of June? The answer would read (30).

Information Provision Test. This type of test involves detailed instructions and a short learner's response. For example,

learners may be asked to print town names on a map or to name parts of an insect.

Subjective Tests

In this form of testing, we are concerned with variables that are not directly observable. Hopkins, Stanley and Hopkins (1990) submit that there are decisions that one may arrive at on the basis of inference. This type of testing is much more difficult than objective testing. The degree of error in subjective testing is greater, and the reliability of the score is lower. Schoolwork that is usually assessed subjectively includes reading, essay writing, music, art, carpentry and sewing lessons.

Various forms of subjective tests are briefly described below.

Essay Tests. Essay tests require learners to write more than one sentence in response to a question. Essay tests are best for assessing complex learning, thinking processes and creativity. It can be difficult to write good essay questions, but it is helpful if you use verbs such as 'organise', 'explain' or 'evaluate' in your question. It can be difficult to mark answers to essay questions. Reliability is a concern. Essay tests can also take a lot of time to mark.

Skills Assessment. All practical subject areas such as typing, woodcarving and drawing would be assessed using subjective methods. However, you can use checklists to ensure that you are looking for the same things each time you examine a student's work.

Oral Tests. When you ask pupils to read, for example, and you give scores, the decision is not based on some quantifiable measure. Students could also be asked to give an oral presentation on a variety of subjects. Again, checklists can be used to ensure you are looking for the same things in each student's presentation.

Project Testing. You may ask pupils to go out and collect leaves of a particular colour, size and shape. When you assess the collection, you will be assessing in a subjective manner.

This section has provided you with a variety of ways to assess students. Select the form of testing that best assesses the learning outcomes that you are seeking. Remember that you can use different types of test questions within a test.

Marking Learners' Work

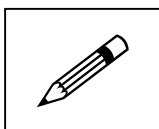
A good teacher makes every effort to mark students' work accurately, fairly and reliably. Marking means more than just placing a tick (✓) next to a response. Marking is a careful assessment of a child's work.

When marking daily exercises, do not put a tick when the expression is wrong. Do not put an X either when the expression is wrong. For example, the statement “John and James are sisters, and they live in town” is grammatically correct, but John and James are commonly known to be boys’ names. So, to indicate that there is something wrong with the word ‘sister’, we would underline the word ‘sister’. If we wanted to see if the learner could construct correct grammatical statements, then we would tick the statement. Always indicate what could be improved in a child’s work by asking questions or giving examples. Do remember to provide encouragement.

When you assess, you need to go back to the objectives in order to determine what you wanted to assess in that lesson. Prior to testing, make sure that your pupils know the lesson objectives, what you will test them on and how you will test them. Testing should be used to assess their readiness to do more complex activities. Testing should not be a surprise to your students, nor should it be a punishment.

If you use ticks when you mark the students’ work, use small ticks. Big ticks are offensive. Avoid ticking across children’s work as if to cancel it. As much as possible, keep your ticks at the end of the expressions or statements.

Remember that pupils learn best when they are given feedback close to the stimulus. Therefore, mark exercises and tests as soon as possible. Provide students with helpful comments and suggestions.



Self-Assessment 3

1. What is the difference between objective and subjective testing?
2. When you mark a student’s work, should you only use ticks? What other information could you provide?

Possible answers to these questions are provided at the end of this unit.



Summary

This unit focused on the assessment of learning. Although there are a variety of reasons for conducting assessments, the most important reason is to help students determine what they can do and what they can improve. Assessment should be an ongoing exercise or frequent event within every classroom.

Various types of tests were briefly described in the unit. The characteristics and limitations of objective and subjective forms of tests were outlined. It was stressed that when teachers mark students’ work, they should take the time to do it accurately, fairly and reliably. Teachers need to provide students with timely and helpful feedback. A tick is not enough.



Reflection

Look at the last two tests or examinations you gave your students. How could you improve them?



Unit Test

1. Identify the type of test that is most used in teaching.
2. How should you conduct your marking?
3. What are subjective tests best at measuring?

Possible answers to these questions are provided at the end of this unit.



Suggested Answers

Self-Assessment 1

A brief description of what each test measures is provided below.

- Intelligence test measures the IQ of the learner.
- Personality test measures personal qualities or traits.
- Diagnostic test measures areas of weakness.
- Aptitude test measures areas of strength.
- Achievement test measures the level of information and skills one has acquired.

Self-Assessment 2

Learners are tested in order to:

- place them into groups or classes,
- establish their level of knowledge,
- discover their weaknesses and their specific abilities, and
- evaluate the success of teaching methods.

Self-Assessment 3

1. The answers for objective tests are the same regardless of who marks the test. A student may receive different marks from different instructors for the same work when subjective testing is used. Subjective testing is not as reliable as objective testing, but it can measure more complex levels of learning.
2. You should not only use ticks when marking, but also add helpful comments and words of encouragement.

Unit Test

1. Achievement tests are likely to be most used in teaching and learning because they directly relate to the classroom work of the teacher. These tests measure the knowledge and skills that pupils have acquired.
2. Tests and exercises should be marked accurately, fairly and reliably. Students should receive helpful feedback and encouragement. Items should be marked quickly and returned to the students as soon as possible.
3. Subjective tests are best for assessing complex learning, thinking processes and creativity. They can be used in almost every subject, especially in those involving practical activities.

Module Test

1. What are the similarities between Pavlov's and Skinner's experiments? What are the implications for teaching and learning?
2. According to the humanists, what should teachers do to facilitate learning?
3. Do you think that the humanist and child-centred approaches to learning are similar? Explain your response.
4. Outline and discuss the implications of Gagné's theory on teaching and learning.
5. List at least five characteristics of a good learning activity.
6. Examine the relevance of task analysis in lesson preparation and presentation.
7. "Maturation is not the only variable that influences learning." To what extent do you agree with this statement? Explain your response.
8. Which approach to learning would you use in your teaching? Explain why you would use it.
9. What intervention strategies would you use when teaching pupils with learning difficulties or disabilities?
10. How can you best motivate your students? Describe at least five ways and relate each to one of the theories about motivation.
11. How can teachers make the most effective use of tests in assessing learning?

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